Appl. No. 09/715,693
Amdt. dated 06 August 2004
Reply to Office communication dated 10-May-04

Remarks/Arguments

Reconsideration Requested

Applicants have given careful consideration to the grounds of the examiner in rejecting applicant's claims 1, 2, 14 and 20 under 35 USC §102(e) as being anticipated by one reference Ikeda et al. US Pat. N$^{o.}$ **6,643,041 B1** that focuses on "provid[ing] a so-called self-healing optical network [col 3, lines 55 – 56]" using a "wavelength division multiplexing survival network . . . connected in ring form by the protection optical paths 31 through 34 [col 1, lines 49 – 51]." The examiner has already recognized—in allowing a significant portion of applicant's claims—that there are claimed features missing from each of the listed and the one cited reference. For the following reasons, applicant respectfully solicits reconsideration of the examiner's rejections.

Claim Rejections under 35 USC § 102

Applicants' claims 1, 2, 14 and 20 stand rejected by the examiner under 35 U.S.C. §102(e), as being anticipated by Ikeda et al. N$^{o.}$ **6,643,041**. A closer look at Ikeda et al. reveals the applicant's claimed invention contains features missing from Ikeda et al.—one reason for this is that Ikeda et al.'s optical network was designed with a 'self-healing' focus, as they explain:

> When a failure occurs in the working optical path, switching control information about the failure and wavelength address information are communicated between the transmission equipment based on an automatic protection switching byte lying in the overhead of the transmission frame, so that the faulty working optical path is switched over to the proper optical path based on the switching information, the wavelength address information and the failure information [col. 5, lines 28-37].

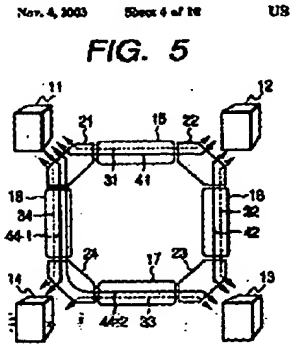
Missing from Ikeda et al. are several features of applicant's claimed invention—first, there is no mention in Ikeda as to any "... each comprising a respective external input for routing data segments into the network and a respective external output for routing data segments out of the network," as claimed by the applicant, for Ikeda's "transmission equipment" 11, 12, 13, 14 or A, B, C, D, *etc.* But rather, in each case where Ikeda et al. details the components of its transmission equipment, it is silent as to where, if any, external input and/or outputs might be located within the optical network (see col. 7, lines 52-56, and col. 9, lines 39-45, *and elsewhere*) and only describe that their "respective transmission equipment are connected in ring form by protection optical paths [col. 11 lines 24-25, in explaining the FIG. 5 "EMBODIMENT 1"]."

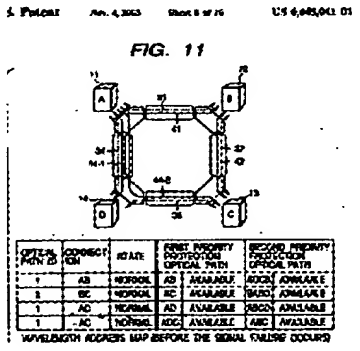
Consistent with Ikeda et al.'s silence as to any external output(s) from transmission equipment, is the process employed by Ikeda et al.'s optical network to determine which route an optical signal will take when being transmitted from one "transmission equipment" to another with its ring form network. Not surprisingly, no mention is made in Ikeda et al. of the possibility of having an optical signal exit the network along an external output, as claimed by the applicant

(*e.g.*, applicant's claim 1 recites "if said first switch element is an outbound destination for said any inbound data segment, said first external output"). Instead, optical signals are transmitted over paths, connected in ring form, and remain within the Ikeda et al. network. Alternate routes taken, where a given optical path is experiencing failure, do not provide an option for direct interconnectivity with neighboring transmission equipment. Three Ikeda et al. passages follow:

> In this case [FIG. 5], the signal for the working optical path **41** is transmitted using a protection optical path. There are the following ***two choices*** as routes for the protection optical path used at this time. A first priority route is a route for the protection optical path **31** and a second priority route is a route corresponding to the protection optical paths **32-33-34**. The former is normally called "span switching" and the latter is normally called "ring switching" [***emphasis added***; please see col. 12, lines 44-51].
>
> . . .
>
> . . . As one example of their healing, the following is considered [referring to FIG. 8]: The protection optical path **31** is used to heal the working optical path **41-1** and the protection optical paths **32** through **34** are used to perform ring switching, thereby making it possible to heal the working optical path **41-3** [col. 14, lines 25-30].
>
> . . .
>
> When a failure occurs in the optical path **41** in a state shown in FIG. 11, for example, switching information is transferred or communicated between the transmission equipment **A** and **B** to thereby determine a switching route. At this time, switching to a first priority protection optical path **31** is first done according to the wavelength address map. As a result, the protection optical path **31** is used if the switching is allowed. If the switching is not permitted, in other words, when the protection optical path **31** is already used, or a failure occurs in the protection optical path **31** and hence the protection optical path **31** is unavailable, an attempt to perform switching to the second priority protection optical paths **32, 33** and **34**, which is connecting between the transmission equipment **A, B, C** and **D**, is made [col. 16, lines 24-37].

Ikeda et al. depicts a ***ring form*** network similar to that in FIG. 5, in each one of their FIGs. 3, 7, 8, 9, 10, and 11 embodiments. The only other optical path configuration detailed by Ikeda is in FIG. 2 which depicts a straight-serial interconnection of transmission equipment (col. 8, line 24). Applicant's claimed network interconnection configuration is distinguishable.





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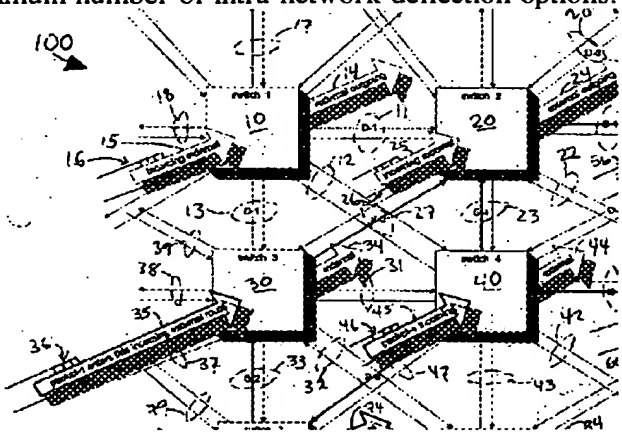
In his specification on pg. 9, lines 6-16 (reproduced below, along with a portion of FIG. 1, for handy reference), the applicant points to unique features of the structure of his network:

> Each bi-directional coupling between neighboring switch elements is represented by a pair of opposing arrows, each arrow representing the direction of data flow along one of the two links. For example, due to its central location within network 100, switch element 40 is bi-directional coupled with each of the nine elements shown: coupling 12 connects it with element 10; coupling 23 connects it with element 20; coupling 57 connects it with element 50; coupling 41 connects it with element 60; coupling 42 connects it with element 90; coupling 43 connects it with element 80; coupling 47 connects it with element 70; and coupling 31 connects it with element 30. As one can appreciate, in the event more switch elements (or fewer) are incorporated into the network, each is preferably interconnected with a neighboring element to provide a maximum number of intra-network deflection options. . . .



As one can appreciate, applicant's independent claims 1, 14, and 20, as well as dependent claim 2, include features distinguishable from Ikeda et al. for which no equivalent structure(s) exist for several unique features designed and claimed by applicant. Nothing in this reference discloses, nor teaches or suggests the combination of structural features claimed by applicants. Furthermore, there is no need or motivation to modify Ikeda et al's design into the unique network configuration claimed by the applicant.

Claim Rejections under 35 USC § 102 / Anticipation – Legal Summary

As we know: "For a prior art reference to anticipate in terms of 35 U.S.C. §102, *every* element of the claimed invention must be identically shown in a single reference . . . These elements must be arranged as in the claim under review . . . ," *In re Bond*, 15 USPQ2d 1566

(Fed. Cir. 1990). The Federal Circuit has reiterated that "[t]here must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention, [*Scripps Clinic & Research Foundation*]". A prior art reference anticipates a claim only if the reference discloses, either expressly or inherently, every limitation of the claim. See *Verdegaal Bros., Inc. v. Union Oil Co.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "[A]bsence from the reference of any claimed element negates anticipation." *Kloster Speedsteel AB v. Crucible, Inc.*, 230 USPQ 81, 84 (Fed. Cir. 1986). An anticipation rejection under §102 can stand against a pending claim *only* if a single piece of prior art discloses a combination including *each* element of the pending claim such that each prior art element is identical to a corresponding, similar structurally-arranged element of the pending claim. This is not the case, here. For reasons enumerated above, applicants submit that his independent claims 1, 14, and 20 —as well as each dependent claim depending therefrom—include features not disclosed in, and not taught or suggested by the identified reference.

35 USC § 103 – Legal Summary for Reference

It is a long-standing rule that, when determining the patentable nature of a claimed invention that has two or more elements "the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination." *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 221 USPQ 481, 488 (Fed. Cir. 1984). Teachings of the prior art simply cannot be combined when the prior art contains no suggestion or motivation to combine them. See *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 221 USPQ 929, 933 (Fed. Cir. 1984). There can be no suggestion to combine where a reference teaches away from its combination with another source, and there can be no suggestion to combine where features destroy (a purpose of) the invention. A reference may be said to 'teach away' when a person of ordinary skill, upon reading the reference, would be discouraged from following a particular path or would be led in a direction divergent from the path that was taken by the applicant (for example, if the reference is combined as has been done, it would produce a seemingly inoperative device). As the Federal Circuit reiterated, see *In re Fritch*, (1992):

> It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. ... This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

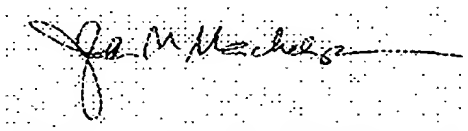
One must look to see whether an artisan, with the references before him/her, could have made the claimed combination *without the exercise of invention.* It is known that a combination made up of elements taken piecemeal from separate references, where there is no teaching or suggestion to so combine, cannot properly be applied against a claimed invention to render it obvious within the meaning of 35 U.S.C. § 103.

Summary/Conclusion and Request for Reconsideration

In sum, after careful consideration of the patent-references identified and placed on the instant record, one can see that each fails to disclose, teach or suggest the instant unique claimed invention. A closer look reveals that Ikeda et al. as well as each of the other identified patents stops short of appreciating or providing any motivation to arrive at the structure claimed in applicant's independent claim. With each reference **silent** as to certain of applicant's claimed features, applicant's claimed invention overcomes the §102 rejections. Furthermore, not only is each reference silent as to certain features, but rather, this absence of feature(s) provides a teaching away from the unique claimed combination(s) —as reasoned above—it is difficult to imagine how one could be led by the references to so combine to reject applicant's claims. And, while each dependent claim depending from an independent claim containing patentable subject matter is also considered patentably distinct by way of including features of a respective independent claim, the examiner has recognized that applicant's dependent claims include limitations not taught by any individual patent reference cited and noted. As pointed out above, nothing can be found in the references to lead an artisan to try to combine references to modify the disclosed structures therewithin to produce applicant's claimed invention, and nothing indicates or suggests any need to do so.

The claims overcome the examiner's §102 rejections by claiming unique combination(s) of features; and as such, all pending claims under consideration are patentably distinct from the art and thus contain allowable subject matter. Therefore, favorable reconsideration is respectfully solicited. Please do not hesitate to call the undersigned to move prosecution forward.

Respectfully submitted this ***6st day of August 2004***,



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